National Sea Grant College Program

For more than 40 years, the National Sea Grant College program has worked to create and maintain a healthy coastal environment and economy. The Sea Grant network includes more than 30 programs based at top universities in every coastal and Great Lakes state, Puerto Rico, and Guam. The programs of the Sea Grant network work together to help citizens understand, conserve and better utilize America's coastal, ocean and Great Lakes resources.

A partnership between universities and the federal government's National Oceanic and Atmospheric Administration (NOAA), Sea Grant directs federal resources to pressing problems in local communities. By drawing on the experience of more than 3,000 scientists, engineers, public outreach experts, educators and students from more than 300 institutions, Sea Grant is able to make an impact at local and state levels, and serve as a powerful national force for change.

Sea Grant invests in high-priority research, addressing issues such as population growth and development in coastal communities; preparation and response to hurricanes, coastal storms and tsunamis; understanding our interactions with the marine environment; fish and shellfish farming; seafood safety; and fisheries management. The results of this research are shared with the public through Sea Grant's integrated outreach program, which brings together the collective expertise of on-the ground extension agents, educators and communications specialists. The goal is to ensure that vital research results are shared with those who need it most and in ways that are timely, relevant and meaningful.

Sea Grant's Infrastructure – The Key To Success

Sea Grant is administered at the national level (through NOAA), but implemented at the local level—where we live, play and work everyday. This unique model brings to bear the expertise of the academic community in essential but practical research and outreach activities that address society's changing needs. The Sea Grant model allows for quick, effective transfer of science-based information: informing citizens, allowing ocean- and Great Lakes-related businesses to grow, and empowering policy makers to formulate well-informed decisions.

Did You Know?

More than 95,000 miles of ocean and Great Lakes coastline span the United States. More than half of the U.S. population lives in coastal areas—and that number continues to grow. The complexity of managing the natural and economic resources of these coastal areas is immense. That's where Sea Grant comes in.

Essential Elements of the Sea Grant Program

Applied Research – Each year, Sea Grant supports some 500 research projects investigating a wide variety of marine and coastal topics. This research addresses critical issues of local, regional and national importance. Among other advances, Sea Grant scientists have improved sensors for environmental monitoring (including sea level rise and tsunami prediction), developed promising drugs and industrial materials from the sea, devised new uses for seafood byproducts, monitored destructive invasive species, and improved the management of wild fish stocks.

Extension – While research is a crucial component of Sea Grant, transferring the knowledge to the people who can benefit from it is just as important. Sea Grant's network of more than 300 outreach experts work with coastal community members and decision makers to provide informal education and transfer new technologies. Sea Grant extension staff members work with

communities in countless ways - to improve tourism opportunities, help fish farmers develop environmentally-sound shellfish farming practices, explain the impacts of land use on water quality, and provide technical assistance to communities planning for, and dealing with, hurricanes and other natural hazards.

Education – Sea Grant has a long tradition of increasing environmental literacy through education. Sea Grant works with K-12 teachers to bring environmental sciences into the classroom—and to bring students out of the classroom and into the natural environment. Sea Grant also supports undergraduate and graduate students in a broad range of disciplines. In three decades of service, Sea Grant has trained more than 12,000 college and graduate students. In addition, the Sea Grant program offers fellowships for graduate students to gain science and policy experience with NOAA, Congress, state and federal agencies, and ocean industries.

Communications – Each program within the Sea Grant network has a dedicated communications staff that works to deliver accurate, reliable, science-based information. Through

newsletters, brochures, posters, articles, web sites, books, radio, videotape and other media, Sea Grant communicators have earned their reputations as honest brokers of information about marine and coastal issues. In recent years, Sea Grant communications experts have created products ranging from environmental radio podcasts and video documentaries to informational guides and colorful books about the history and science of our coastal regions.

Standing Up to Future Challenges

The complexity of managing the natural and economic resources of our oceans and Great Lakes is enormous. Fast-growing human populations are putting increased pressures on the environment. As coastal populations grow, so too do the threats to precious environmental resources—among them, safe seafood, water quality and ecosystem health. The need for solid, relevant research, and effective ways of sharing this information with decision-makers and the public, is more urgent than ever before.

Sea Grant projects embrace an array of activities, from applying sensible and sustainable development concepts for Hawaii's fast-growing coastal communities to curbing the spread of invasive species such as the European green crab, which is decimating many types of shellfish. But there is much that remains to be done to meet future demands for safe food, safe water and healthy coastal communities.

Sharing a Wealth of Knowledge

As Sea Grant directs its mission in the 21st century, the program continues to improve citizens' understanding of marine science and the environment, and to apply that knowledge to help communities make sound decisions. Few institutions can match Sea Grant's track record of success, in informing the public, educating K-12 students and teachers, and training undergraduate and graduate students—cultivating the next generation of coastal scientists and policy makers.

Sea Grant's integrated national network will continue to be a key player in addressing emerging issues at local, regional and national levels, and safeguarding our coasts. Sea Grant brings decades of experience and know-how. In our waters, along our coasts, within our communities—Sea Grant is there.

Did You Know?

Across the nation, Sea Grant addresses issues of local and global concern.

- **Sea Grant extension provided training and technical assistance to enable members of the Gulf of Mexico and South Atlantic shrimp fisheries to become eligible for more than $5.5 million through the USDA Trade Adjustment Assistance Program.**
- **Seafood safety classes led by Sea Grant extension workers in California have prevented an estimated 20,000 to 60,000 seafood-related illnesses.**
- **The national standards for flood-resistant building design now incorporate Sea Grant research results. Research revealed that walls designed to withstand 125-mph winds would fail after only a few 1.5-foot waves. That information is now used by FEMA to design flood maps and by the American Society of Civil Engineers to develop building codes.**
- **Sea Grant engineers are working with coastal communities to tap the pent-up energy in ocean waves in order to meet U.S. demand for affordable, renewable energy. This cutting-edge research is fueling enthusiasm around this potential power source.**

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